EARTHJUSTICE

March 4, 2016

Velveta Golightly-Howell
Director
Jeryl Covington
Acting Assistant Director
USEPA
Office of Civil Rights
Mail Code 1201-A
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Re: EPA File No. 12R-13-R4, Complaint Against ADEM Regarding Permit for Arrowhead Landfill

Dear Director Golightly-Howell and Acting Assistant Director Covington,

The Director's letter of November 10, 2015 stated that EPA's Office of Civil Rights ("OCR") decided to keep its investigation into allegations that the Alabama Department of Environmental Management ("ADEM") violated Title VI by reissuing and modifying permits for Arrowhead Landfill without adequate protections for the health and welfare of Uniontown residents open until March 8th, 2016.[1] This letter is intended to raise questions and concerns about the investigation and to supplement the administrative record in the case before the March 8th deadline. We also wanted to let you know that Complainants intend to file an additional letter with EPA before the deadline next week.

INTRODUCTION

As indicated in a November 4, 2015 email to Jeryl Covington, Complainants were surprised and concerned to learn during a telephone call on November 3, 2015 that EPA was "closing the record."[2] We requested an extension to afford EPA time to take the steps needed to

[1] Letter from Velveta Golightly-Howell, Dir., EPA Office of Civil Rights, to Marianne Engelman Lado, Sr. Staff

[2] E-mail from Marianne Engelman Lado, Sr. Staff Atty., Earthjustice, to Jeryl Covington, EPA Office of Civil Rights (Nov. 4, 2015), attached as Exhibit 1.

ensure that its investigation is thorough and, second, to provide Complainants with additional time to supplement the record. We were thus again surprised when your letter of November 10, 2015 restated EPA's intent to "close the investigation period" for the case on a date certain – in this case, March 8, 2016. Although Complainants seek timely resolution of claims and appreciate that OCR investigation plans include "anticipated timeframes for obtaining and analyzing evidence (if appropriate)",[3] it is equally critical that OCR's enforcement activity be thorough and meaningful. Neither unnecessary delay nor pro forma investigations fulfill EPA's duties or serve justice.

Of course, Complainants do not have full information about EPA's investigative activities. EPA's poor record of Title VI enforcement[4] creates understandable cause for doubt, however, and OCR's visible activities have not been reassuring. OCR's lack of engagement and follow up with members of the community raises continued concerns about the scope and comprehensiveness of the investigation. In August of 2014, for example, when EPA staff conducted a site visit in Uniontown, Alabama, Complainants provided a list of witnesses, including both Complainants and other residents of the community, each of whom were willing to speak with EPA about the impacts of ADEM's decisions in 2011 and 2012 to permit Arrowhead Landfill without adequate provisions protecting the health and welfare of residents. EPA's travel itinerary and staffing did not allow time for interviews with each of these individuals, but EPA staff indicated that they might return to Uniontown or otherwise be in touch to complete the interviews. In addition, complainants had arranged for a town hall meeting, which they envisioned as an opportunity for EPA investigators to hear from other stakeholders and members of the affected community. A number of these stakeholders had also volunteered to serve as witnesses and be interviewed by EPA. At the time, EPA staff indicated that OCR's Director would want to participate in any town hall meeting and for that reason, the event was postponed. Complainants had envisioned this not as a general listening session but as an efficient opportunity for investigators to reach additional potential witnesses. As you may know, a number of Uniontown residents had previously participated in a "listening session" with other

[3] EPA OCR, Interim Case Resolution Manual § 4.2 (Dec. 1, 2015) (hereinafter, "CRM") *available at* http://www.epa.gov/sites/production/files/2015-12/documents/ocr_crm_final.pdf.

[4] *See, e.g.,* Yue Qiu & Talia Buford, *Decades of Inaction*, Ctr. for Pub. Integrity (Aug. 3, 2015), http://goo.gl/khzht0 (cataloguing disposition of complaints over 17 year period); Deloitte Consulting LLP, *Evaluation of the EPA Office of Civil Rights* 2 (March 21, 2011), *available at* https://goo.gl/CmkrrZ (describing OCR's "record of poor performance").

EPA staff, including leaders from Region 4, with no apparent result.[5] At this point, they were eager to provide assistance to the investigation, which they hoped would be a meaningful step toward addressing ADEM's gross failure to protect members of Uniontown. Again, OCR failed to follow up or seek to reschedule the event.

Given the extraordinary injustice affecting members of the Uniontown community – with residents of this low-income, predominantly African American town living literally across the street from a mountain of coal ash and, more generally, a landfill that is permitted to accept waste from more than 30 states – Complainants wish they could be more reassured by the statement in the Director's November 10, 2015 letter that "OCR has taken significant steps to collect and analyze evidence in the Arrowhead complaint since accepting it on June 27, 2013, in order to complete its investigation in a timely and thorough manner."[6]

Moreover, as stakeholders, Complainants are an important resource for any thorough investigation. Like many other environmental justice communities, complainants in a Title VI administrative case filed with EPA may not have the financial capacity to fund costly research projects. Yet community residents can provide background information, identify witnesses, share experiences, report on community-based monitoring, and provide leads for a thorough investigation. Their anecdotal evidence of health and other impacts clustered around the Landfill is invaluable. In order for this to happen, however, EPA needs to communicate and follow up with community members.

Complainants understand that "[a] Title VI complainant is not like a plaintiff in court."[7] Yet EPA has repeatedly affirmed its goal "to promote appropriate involvement by complainants and recipients in the Title VI complaint process."[8] EPA may seek to have discretion over the conduct of its investigations, but failing to consult with stakeholders in a meaningful way is simply not consistent with a thorough investigation. The Investigation Procedures Manual for the Investigation and Resolution of Complaints Alleging Violations of Title VI and Other

---

[5] *See* Community Listening Session Hosted by EPA-Region 4 Administrator Gwen Keyes Fleming, Exhibit P1, attached to Complaint, EPA File No. 12R-13-R4.

[6] Letter from Velveta Golightly-Howell, *supra* note 1.

[7] EPA OCR, Title VI of the Civil Rights Act of 1964: Role of Complainants and Recipients in the Title VI Complaints and Resolution Process § 2 (2015), *available at* https://assets.documentcloud.org/documents/2178959/final-roles-of-complainants-and-recipients-issue.pdf.

[8] *Id.* (footnote omitted).

Nondiscrimination Statutes issued by the Department of Justice ("DOJ") includes the following guidance for conducting a Title VI investigation:

- Request "enough information from the complainant to have a clear picture of the allegations – the who, what, when, where, why – the evidence that the complainant believes would help support his or her assertion that discrimination has occurred."
- "Complainants can be very helpful in providing information on the types of records a recipient keeps that will lend support to their allegations."
- "They can also suggest important witnesses to interview who could give testimony to support their allegations.
- Ask the complainant and recipient what are "the documents that they want you to examine, or the person(s) whom they want you to interview," which will reveal "how the documents or interview will support their respective positions."[9]

DOJ of course advises that agencies should be wary of being drowned in irrelevant information and indicates that agencies are not required to interview all witnesses that are suggested by complainants or recipients. At the same time, initial communication between EPA and complainants helps to clarify the scope of materials that might be relevant and productive.

In Uniontown, EPA's failure to follow up on discussions about conducting additional interviews and meeting community residents was particularly disturbing in light of the failure of other agencies of government – local government, ADEM and even EPA – to take action in response to community complaints. As Complainants discussed in their interviews, they participated in any number of hearings and listening sessions and repeatedly heard nothing in response. In this context, agency follow up is even more critical.

Complainants raise these issues both to provide feedback to OCR as it develops and implements investigative plans going forward, with so that OCR will improve its communication with and engagement of complainants, and also with the hope that OCR will ensure that its investigation has been thorough before "closing the record" in this case. Although justice has been delayed for too long and Complainants seek timely resolution, EPA must also ensure that its investigation thoroughly evaluates the evidence that ADEM's actions violated Title VI and its regulations.

[9] DOJ, Civil Rights Division, Investigation Procedures Manual for the Investigation and Resolution of Complaints Alleging Violations of Title VI and Other Nondiscrimination Statutes § V(B)(5)(e) (1998), *available at* https://www.justice.gov/crt/investigation-procedures-manual-civil-rights-division.

I. EPA BEARS THE RESPONSIBILITY FOR CONDUCTING A THOROUGH INVESTIGATION.

Although complainants bear an initial burden of production to meet jurisdictional requirements, ultimately complainants do not bear the burden of proof regarding the merits of claims that a recipient violated Title VI of the Civil Rights Act of 1964 and EPA's implementing regulations. EPA's Interim Case Management Manual states:

> [A] complainant's role is to report what s/he believes is an act violating nondiscrimination statutes by an entity receiving federal financial assistance to the associated agency. The EPA is not in an adjudicatory role, evaluating evidence produced by opposing sides, but instead investigates allegations about its recipient, and reaches a conclusion regarding whether that recipient is in compliance with its civil rights obligations to the EPA.[10]

As discussed above, similar to many other Title VI cases filed by residents of environmentally overburdened communities, complainants in this case are primarily low-income individuals and do not have the resources to hire experts or consultants. Although complainants make good faith efforts to respond to requests for information, they are not responsible for producing documentation sufficient for making findings.

EPA has the obligation to investigate, which should include following up on concerns raised about contamination of water, air, soil and dust. This should include gathering information and records from the recipient, third parties, and community members, and it must also include sampling of water, soil or dust, given the preliminary findings of Ex. 6 Personal Privacy (PP) as discussed further below. Claims of discrimination should not be defeated by supposed data gaps that result from lack of resources on the part of complainants or lack of action on the part of ADEM or EPA.

Complainants have concerns about whether the investigation has been conducted with due diligence. Although OCR has pressed Complainants to organize an interview with Ex. 6 Personal Privacy (PP) and an additional expert, EPA has failed to follow up on its site visit – failed to contact Complainants to interview additional witnesses and, also, to follow up on the offer to hold a town hall meeting to meet additional residents. Complainants supplemented the record with a

[10] CRM § 3.1.

photograph of water running off from the Landfill site in proximity to the coal ash that had been deposited at the Landfill in 2010,[11] as well as an ad circulated by the Landfill in May 2015 entitled "Arrowhead Landfill Provides Safe Haven for Utilities Disposing of Coal Ash."[12] OCR acknowledged receipt of these materials but failed to engage Complainants in any way: as a result, Complainants have no knowledge of whether EPA followed up, conducted testing, or gathered additional information related to the runoff. Through the wet season over the winter of 2015-16, residents saw additional run-off from the Landfill and registered multiple complaints with ADEM. Complainant Ex. 6 Personal Privacy (PP) emailed a photograph taken on February 3, 2016 to OCR showing water running off the site .[13] Without communication or engagement from EPA, it is not at all clear whether EPA is monitoring complaints made to ADEM, following up on the information at its disposal, or monitoring the site in any way.

II. IMPACTS INCLUDE INTERFERENCE WITH USE OF SACRED SPACE.

In addition to impacts listed in the Complaint, ADEM's failure to conduct a disparate impact analysis and its decision to permit Arrowhead Landfill also have adversely affected the ability of members of the Uniontown community to use New Hope Church Cemetery, a historic African American cemetery that is adjacent to Arrowhead Landfill. Specific issues raised by complainants Ex. 6 Personal Privacy (PP) among others, have included concerns about odor interfering with visits to family members and loved ones who are interred in the cemetery, given the proximity of the Landfill; the Landfill's failure to maintain access to gravesites; the installation of one or more water monitors on Cemetery grounds; and, most recently, disturbance of Cemetery property. ADEM utterly failed to ensure that this sacred space was protected from interference. Most recently, community residents are concerned that Green Group Holdings, the owners of Arrowhead Landfill, has encroached on New Hope Church Cemetery and, specifically conducted bulldozing operations on Cemetery grounds, possibly damaging gravesites and interfering with the ability of Complainants and other residents of Uniontown to visit relatives who are buried in the Cemetery. Please find four photographs sent to Counsel for Complainants by Mike Smith, counsel for Arrowhead Landfill, in 2015, providing

[11] Photograph is attached for your convenience, as Exhibit 2.

[12] Ad is attached for your convenience, as Exhibit 3.

[13] Photograph is attached for your convenience, as Exhibit 4.

evidence of path created by a bulldozer on cemetery grounds, attached as Exhibit 5, as well as three photographs taken on or about February 18th 2016 by complainant Benjamin Eaton, of a bulldozer on the grounds of the Cemetery, attached as Exhibit 6.

Impacts of ADEM's permitting decision on a historic African American cemetery in proximity to the permitted activity should be considered by EPA in its analysis of the allegation that ADEM has violated Title VI and EPA's implementing regulations. EPA's regulations specifically provide:

> (b) A recipient shall not use criteria or methods of administering its program or activity which have *the effect* of subjecting individuals to discrimination because of their race, color, national origin… or have the effect of defeating or substantially impairing accomplishment of the objectives of the program or activity with respect to individuals of a particular race, color, national origin….
>
> (c) A recipient shall not choose a site or location of a facility that has the purpose or effect of excluding individuals from, denying them the benefits of, or subjecting them to discrimination under any program or activity to which this part applies on the grounds of race, color, or national origin …; or with the purpose *or effect* of defeating or substantially impairing the accomplishment of the objectives of this subpart….[14]

In a disparate impact case, "the focus of the investigation concerns the consequences of the recipient's practices, rather than the recipient's intent."[15] EPA's investigation should consider the impacts of ADEM's decision to permit Arrowhead Landfill on a site adjacent to a historic African American cemetery and to do so without any protections or against incursion and impact on the cemetery. Indeed, it is clear that the operation of Arrowhead Landfill under the permit has disproportionately affected the interests of residents of the community on the basis of race. New Hope Church Cemetery traces its origin to the time of *de jure* racial segregation and is a historically African American cemetery.

[14] 40 C.F.R. §§ 7.35(b), (c) (emphasis added).

[15] DOJ, Civil Rights Division, Title VI Legal Manual § VIII(B), *available at* https://www.justice.gov/crt/title-vi-legal-manual#Disparate (last updated Aug. 6, 2015).

III. PRELIMINARY FINDINGS MADE BY Ex. 6 Personal Privacy (PP) RAISE SIGNIFICANT ISSUES THAT EPA SHOULD INVESTIGATE

Ex. 6 Personal Privacy (PP), one of EPA's interviewees, has conducted extensive preliminary testing of water in and around the Landfill. The results of those findings showed substantially elevated levels of several dangerous pollutants related to coal ash. While those findings alone provide a factual basis to support a finding of impact, EPA must at the very least conduct further testing of its own into this serious effect.

Ex. 6 Personal Privacy (PP) is a professor of natural sciences at Samford University, where she has been a professor for twenty years. She is trained in the use of advanced equipment such as atomics and spectrometry. She holds a Ph.D. in physiological science and teaches embryology, neuroscience, bioinformatics, and other classes. EPA met with Ex. 6 Personal Privacy (PP) twice about her involvement in water testing around the Landfill, on August 13, 2014 and on October 29, 2015. She is eminently qualified to conduct the research and testing she has conducted near the Landfill.

In the summer of 2013 Ex. 6 Personal Privacy (PP) found that the water around the Landfill were orders of magnitude above the control for conductivity and also had high levels of arsenic. She also found statistically significant differences between the control and testing sites for total dissolved solids. Ex. 6 Personal Privacy (PP) as she described in her interviews, was shocked by those results as that kind of pollution simply is not ordinarily found in areas like Uniontown. Ex. 6 Personal Privacy (PP) conducted that evaluation with a Hach Test, an accepted method in the field. She tested in a number of sites—from a culvert on the road near the Landfill where unpermitted discharge was occurring to the adjacent property of Ex. 6 Personal Privacy (PP) Because there is nothing upstream of the Landfill, there was nothing else that could have been influencing her measurements, and she followed a careful protocol with a control, as is standard practice. Ex. 6 Personal Privacy (PP) lso found that there were simply none of the macro-invertebrates one would ordinarily find in Alabama water.

Because Ex. 6 Personal Privacy (PP) was very surprised by these results, she emailed them to ADEM almost immediately. She explained that while the results of her preliminary testing was not definitive, it served as a public notice and alert to the authorities that something was wrong. For that reason, she urged ADEM to conduct its own investigations, but ADEM simply said her

findings were not conclusive. But ADEM—and now EPA in this investigation—bears the burden of the investigation, not the volunteer scientist who has sounded the alarm.[16]

In March of 2015, Ex. 6 Personal Privacy (PP) returned to Uniontown to conduct measurements using atomic spectrometry. Using that suite of tests, she found differences between the control and test sites near the Landfill for cadmium, magnesium, selenium, strontium, sulfur, and thalium—she found elevated levels for many of these. Ex. 6 Personal Privacy (PP) also found elevated results for conductivity, arsenic, and total dissolved solids. This was in addition to a more acidic pH near the Landfill. Conductivity decreased with distance but still contributed to an increase in Chilatchee Creek. Ex. 6 Personal Privacy (PP) followed a tributary from Ex. 6 Personal Privacy (PP) property to where it joins Chilatchee Creek, and she found significantly higher levels of the things she was testing for below the tributary than above. Her results also found dramatic differences in sulfur and strontium.[17]

She concluded that the Landfill impairs local surface waters, including elevated levels of arsenic above ADEM's guidelines. Arsenic is particularly worrisome because it can get into drinking water and bioaccumulates and biomagnifies up the food chain. Arsenic is one of the signature pollutants one would expect to find in coal and coal ash—it is a very good indicator that the Landfill is harming local surface waters. Likewise, elevated conductivity is a good indicator that something is happening in the water because it is not something that happens without a change in the chemistry.

In the past few months, Ex. 6 Personal Privacy (PP) has returned to Uniontown and taken samples of the water. In February, she reported that her samples have large variations in conductivity, reflecting qualitative changes in elemental calcium cesium iron, magnesium manganese, potassium, rhenium rubidium sodium, sulfur, strontium and tim. Some of the most dramatic differences were in iron, sulfur and strontium.

EPA must act on these findings. First, it is a clear demonstration of impact that should underlie EPA's finding of discrimination. Second, at the very least EPA must conduct further testing in a complete profile with the most sensitive endpoints possible. On this basis, EPA should also test surface dirt and dust, including the very chalky white residue around the Landfill that is not present in other nearby areas. Plants in the area should also be tested to see what they

[16] Complainants previously submitted these findings, which are attached for OCR's convenience as Exhibit 7.

have sequestered, since they can serve as important biomonitors. Wells used for drinking water should also be tested.

These chemicals, as Ex. 6 Personal Privacy (PP) described in her October 29, 2015 interview, could be causing major health impacts. Elevated levels of these chemicals suggest a pervasive effect in an area where people live and, often, own livestock. Many heavy metals are hazardous to human life, yet there is good evidence they are present in Uniontown's groundwater due to the Landfill and are being ignored by ADEM.

IV. WATER CASCADING FROM LANDFILL AND OTHER EVIDENCE RAISE SERIOUS ISSUES THAT EPA SHOULD INVESTIGATE

As indicated above, Complainants have submitted to EPA photographic evidence of water cascading off the Landfill site – and, indeed, off the side of the mountain of coal ash deposited at the Landfill, into a ditch along County Road 1. Liquid in this ditch runs along and under County Road 1 and into properties across the road, including the property of Ex. 6 Personal Privacy (PP) Ex. 6 Personal Privacy (PP) This run-off is of continued concern to residents and raises questions about the possible discharges of toxics from the site.

Although Complainants have limited access to Landfill and ADEM records, a report submitted to ADEM by Alabama Utility Services on January 11, 2010 confirming plans to accept leachate from Arrowhead Landfill, then referred to as Perry County Associates Landfill, demonstrates that ADEM has been aware that there were elevated concentrations of arsenic, barium, chromium, lead, nickel, and zinc, all of which raise human health concerns. In addition, organic nitrogen and phosphate, magnesium sulfate, sulfite, and chloride were elevated.[18]

V. THE FACT THAT THE LANDFILL IS ADVERTISING FOR ADDITIONAL COAL ASH INCREASES THE RISKS OF FUTURE AND CONTINUED HARM FROM THE CHALLENGED PERMIT

[18] Letter from C.W.Matthews, Manager, Alabama Utility Services, L.L.C., to Kimberly Minton, Water Division - ADEM (Jan. 11, 201), with attachment attached as Exhibit 8.

Astonishingly, the owners of the Landfill are soliciting the receipt of additional coal ash.[19] Notably, however, the permit remains largely the same today as it did when the coal ash was originally dumped in Uniontown, and there is no reason to believe the same impacts and harms to the community would not recur.[20] Yet the Landfill is currently seeking additional coal ash.

The Landfill may argue that it is under new ownership and therefore will turn over a new leaf. While it is technically true that the Landfill is now owned by a different umbrella company, Green Group Holdings, the main decision-makers appear to be the same. For example, although Phillips and Jordan, a contractor at the Landfill, apparently ceased doing work at the site after October 2011, it is one of two privately held investors in Green Group holdings.[21] There has been no indication of substantive change to the company's operations in a way that would indicate more and better protections against the current coal ash contamination or future contamination.

Green Group Holdings markets itself as having a "spotless environmental record,"[22] a claim that is belied by its record. In fact, Green Group recently was issued a Notice of Violation for issues related to the Landfill. The following notice was recently posted on ADEM's website:

> Pursuant to 40 CFR Part 403, the Alabama Department of Environmental Management is required to Public Notice any Industrial User that is in Significant Non-Compliance with applicable Pretreatment Standards at any time during the previous twelve months. This notice is intended to inform the public that **Perry County Associates, LLC, SID Permit Number IU395300144,** located at 622 Tayloe Road, Uniontown, Alabama 36786, was in significant non-compliance during the fiscal year 2015 by discharging wastewater to the Demopolis WWTP/Integra Water

---

[19] *See* Press Release, Green Group Holdings, Arrowhead Landfill Provides Safe Haven for Utilities Disposing of Coal Ash (May 5, 2015), *available at* http://www.power-eng.com/marketwired/2015/05/5/arrowhead-landfill-provides-safe-haven-for-utilities-disposing-of-coal-ash.html.

[20] *See* photographic documentation submitted by John Wathen at the time of his interview with OCR; *see also* videos with testimonials at https://www.youtube.com/watch?v=kAM6wpRek0o (Cynthia Nixon); https://www.youtube.com/watch?v=Omfo7pcQXRE (video by John L. Wathen).

[21] *See* Green Group, Investors, available at http://www.gghcorp.com/about/investors/.

[22] Statement of Michael D. Smith, USCCR Testimony for 2/5/16 Public Hearing, *available at* https://securisync.intermedia.net/Web/#/s?public_share=kYWfwhhUK2KP_ip3l6zAab&id=LzItNS0xNiBFbnZpcm9tZW50YWwgSnVzdGljZSBCcmllZmluZyAyMDE2L0Vudmlyb25tZW50YWwgSnVzdGljZSBCcmllZmluZyBQYW5lbCBTdGF0ZW1lbnRzL1BhbmVsaXN0cycgU3RhdGVtZW50cy80IC0gQ29hbCBBc2ggSW5kdXN0cnkvTWljaGFlbCBTbWl0aA%3D%3D.

> Creola LLC (AL0043168/AL0077453) that did not comply with permit requirements.[23]

Indeed, on October 5, 2015, the Texas Commission on Environmental Quality ("Texas CEQ") rejected an application from Green Group Holdings for a Permit for the proposed Pintail Landfill in Waller County.[24] The Texas CEQ worked with consultants for Green Group Holdings for four years before finding "over 400 instances of deficiencies, resulting in four formal written notices of technical deficiencies."[25] Although these deficiencies were addressed before the draft permit was prepared, high water levels were discovered that materially affected the basis on which the draft permit was prepared and Texas CEQ determined that "the only reasonable course available is to return the application as deficient."[26] In Uniontown, there is no indication that the Landfill or its ownership have taken any steps to reform and no indication that ADEM has imposed any new checks against a repeat of the impacts that the arrival of coal ash and the operation of the Landfill has had on area residents.

CONCLUSION

We hope EPA has conducted a thorough investigation and will take these matters into account. Though we support efforts by OCR to act in a timely way – indeed, Complainants urge EPA to do so – we also urge EPA not to close the record prematurely if it would mean losing the opportunity to conduct a thorough investigation. EPA is obligated to conduct investigations that are both timely and thorough, and that is what Complainants seek. Indeed, EPA could draw preliminary findings even if the record is still open for new evidence.

We nonetheless expect to provide additional information before March 8th. Please feel free to contact us if this letter raises any question or we can provide additional information.

---

[23] ADEM, Public Notice of Significant Non-Compliance for Significant Industrial Users, available at http://adem.alabama.gov/newsEvents/notices/feb16/2snc.htm.

[24] Letter from Earl Lott, Director, Waste Permits Division, Texas CEQ, to Ernest Kaufmann, Manager, Pintail Landfill, LLC, President, Green Group Holdings, LLC (Oct. 5, 2015), *available at* https://assets.documentcloud.org/documents/2451034/tceq-to-green-group-letter.pdf.

[25] *Id.*

[26] *Id.*

Sincerely,

Marianne Engelman Lado
Senior Staff Attorney
Earthjustice
48 Wall Street, 19th Floor
New York, NY 10005
Ex. 6 Personal Privacy (PP)
earthjustice.org

Matthew R. Baca
Associate Attorney
Earthjustice Northwest Office
705 Second Ave, Suite 203
Seattle, WA 98104-1711
T: 206.343.7340 ext. 1021
F: 206.343.1526
earthjustice.org

Exhibit 1

Marianne Engelman Lado

From: Marianne Engelman Lado
Sent: Wednesday, November 04, 2015 2:42 PM
To: covington.jeryl@epa.gov
Cc: Matthew Baca; Lisa Evans
Subject: Arrowhead Investigation: EPA File No. 12R-13-R4

Dear Ms. Covington,

This letter is intended as a quick response to your telephone call yesterday afternoon, Tuesday, November 3rd, 2015. As I understood it, you called in follow up to the interview conducted by you and others at the Office of Civil Rights (OCR), as well as the Office of General Counsel, with Ex. 6 Personal Privacy (PP) s on Thursday, October 29th, during which Ex. 6 Personal Privacy (PP) Ex. 6 Personal Privacy (PP) mentioned that she had more recently conducted follow up testing and that she would be willing to share the results of that testing. During yesterday's call, you indicated that you had spoken with OCR's director, Velveta Golightly-Howell, and that she was closing the record of the investigation. I wasn't clear what it meant in this context to close the record, but it sounded as if OCR was not interested in receiving follow up information from Ex. 6 Personal Privacy (PP) or any other supplement to the record.

I have a number of questions regarding the significance of "closing" the record. Does this step suggest that EPA has come to preliminary conclusions and recommendations, if any? If not, wouldn't EPA continue to collect information that might be relevant to the investigation?

OCR should not arbitrarily "close the record" without advance notice to the complainants. We request that the record remain open until March 1, 2016 in order to provide time for complainants to provide additional information.

Notably, during OCR's site visit to Uniontown last fall, OCR staff indicated that they only had time to interview a subset of the witnesses we suggested and would follow up with complainants about possible interviews with additional members of the community who had been affected by Arrowhead Landfill and, in particular, the operation of the Landfill under the permit approved by the Alabama Department of Environmental Management (ADEM). OCR also postponed a town hall style meeting that complainants had organized, communicating to complainants that the Director wanted to be present and hold a "listening session." Complainants had viewed the meeting as an opportunity for the investigators to meet and hear from additional members of the community who had experienced impacts, and communicated to OCR that this community had already participated in "listening sessions." Nonetheless, complainants were awaiting follow up from OCR and ready to organize additional interviews and a meeting for OCR staff and community residents. At no time since have OCR staff communicated that investigators were no longer interested in meeting with additional witnesses or that they had a deadline for arranging follow up interviews.

Moreover, OCR's history would not suggest that the OCR would "close" the record on a date certain this year. As you know, many investigations drag out for years, even decades. Though I can appreciate that OCR may be taking efforts to conduct investigations in a more timely manner, OCR provided no indication that the door would suddenly close to new information or that closure was imminent.

The timing of this decision is particularly surprising in that I had communicated last week that complainants are working with an expert to conduct additional soil and dust sampling and, also, Ex. 6 Personal Privacy (PP) communicated that she had recently conducted additional water sampling. It's hard to understand how an agency conducting an investigation in good faith would close the door arbitrarily, without notice, to additional relevant information.

As you know, OCR's external compliance record has been under the spotlight. Timeliness is, however, but one area of concern. Yes, investigations should be, in the words of OCR's recently released draft External Compliance and

Complaints Program Strategic Plan, "prompt" and "efficient," but OCR's operations should also be conducted in compliance with and in furtherance of principles of environmental justice, which includes "meaningful involvement" of communities. See EPA, "What is Environmental Justice?" at http://www3.epa.gov/environmentaljustice/. Moreover, investigations (and compliance reviews) must be thorough. Complainants submit allegations, but it is up to OCR staff to reach out to witnesses, take and analyze samples, and, in short, conduct the investigation. As Dr. Dobbins suggested, her findings are indicative of impacts; they provide a reasonable basis for further investigation. Complainants are deeply concerned that they have no evidence that OCR has followed up on leads and conducted a thorough investigation. At minimum, complainants would expect that OCR would be interested in information that complainants can provide and that if OCR is going to "close the record," that OCR would provide ample notice.

Again, I renew the request that the record remain open for additional evidence until March 1, 2016.

I look forward to your response.

Sincerely,

Marianne

Marianne Engelman Lado
Senior Staff Attorney
Earthjustice
48 Wall Street, 19th Floor
New York, NY 10005
Ex. 6 Personal Privacy (PP)
earthjustice.org

Exhibit 2

Exhibit 3

r Utilities Disposing of Coal Ash

ndfill Provides Safe ties Disposing of Coal

ORLD OF COAL ASH CONFERENCE -- Green Group Holdings, LLC announced coal combustion residuals (CCR), commonly known as coal ash, from utility ht on by the new federal regulations.

ency (EPA) regulations on CCR establish disposal standards, monitoring obligations, and associated public reporting requirements for CCR landfills, most commonly owned and operated by utility companies. However, the new rule does not address enforcement, meaning interpretation and enforcement of the rule will ultimately be determined as a result of civil litigation, putting utilities that dispose of coal ash in CCR landfills at serious risk.

Beginning in October, when the rule becomes effective, citizens will be able to sue a utility to enforce any of the rule's requirements.

As a municipal solid waste (MSW) landfill, Arrowhead is not subject to the new EPA regulations and is ready to accept coal ash immediately. In fact, disposal of coal ash at Arrowhead will exceed the standards established by rule, creating for utilities a "safe harbor" solution not subject to further interpretation or dispute, and a clean transfer of obligation.

"Arrowhead Landfill has already proven capable of handling coal ash, having successfully disposed of more than four million tons of CCR by our affiliate partner Phillips & Jordan," said Ernest Kaufmann, CEO, Green Group. "With rail access, a geographic reach that allows us to serve 33 states, and an environmentally ideal location, Arrowhead is uniquely well-positioned to meet this need."

The landfill, which is permitted by the Alabama Department of Environmental Management (ADEM), is located above the Selma Chalk, one of the most impermeable naturally occurring clay formations in North America, making Arrowhead one of the most environmentally sound disposal facilities in the nation. Arrowhead has never received a Notice of Violation from ADEM and maintains financial assurance for closure and post closure monitoring in accordance with state requirements. For more information on Arrowhead Landfill, visit: www.arrowheadlandfill.com.

About Green Group Holdings

Green Group Holdings, LLC is an environmental services company that specializes in the planning, implementation and operation of waste disposal, recycling, reuse, and restoration projects. These projects are designed with the environment and safety as our highest priorities, with an approach that provides significant value to the communities in which they are located. For more information, visit, www.greengroupholdings.com.

Affiliate Partner of Arrowhead Landfill: Phillips & Jordan. www.pandj.com

The following files are available for download:

- Arrowhead Landfill
- Green Group logo

Contact information
Media Contact:
Jeff Tieszen
512-288-4054 (o)
512-585-8728 (c)
jeff@influenceopinions.com

Powered by: MARKET WIRED

LATEST NEWS

Resolute Energy Corporation to Announce Results for the First Quarter Ended March 31, 2015 and Hold Investor Conference Call on Tuesday, May 12 at 4:30 pm EDT

Resolute Energy Corporation to Announce Results for the First Quarter Ended March 31, 2015 and Hold Investor Conference Call on Tuesday, May 12 at 4:30 pm EDT

STWA Issues Letter to Shareholders

STWA Issues Letter to Shareholders

Abakan to Present at International Thermal Spray Conference and Exposition 2015

Abakan to Present at International Thermal Spray Conference and Exposition 2015

Perma-Fix Medical S.A. Formally Accepts $2.8 Million Grant From the European Union Awarded Earlier This Year to Advance Development of Technetium Generator for Cancer and Cardiac Imaging

Perma-Fix Medical S.A. Formally Accepts $2.8 Million Grant From the European Union Awarded Earlier This Year to Advance Development of Technetium Generator for Cancer and Cardiac Imaging

EnerJex Resources Announces Pricing of $2.3 Million Public Offering of Non-Dilutive 10% Series A Perpetual Preferred Stock

EnerJex Resources Announces Pricing of $2.3 Million Public Offering of Non-Dilutive 10% Series A Perpetual Preferred Stock

UPDATE: Perma-Fix Announces Financial Results and Provides Business Update for the First Quarter of 2015

UPDATE: Perma-Fix Announces Financial Results and Provides Business Update for the First Quarter of 2015

Infinity Energy Resources, Inc. Completes $12 Million Private Placement

Infinity Energy Resources, Inc. Completes $12 Million Private Placement

Perma-Fix Announces Financial Results and Provides Business Update for the First Quarter of 2015

Perma-Fix Announces Financial Results and Provides Business Update for the First Quarter of 2015

Bayport International Holdings, Inc. (BAYP) Updates Shareholders

Bayport International Holdings, Inc. (BAYP) Updates Shareholders

Walter Energy Will Make Interest Payments, Continue Discussions With Debtholders

Walter Energy Will Make Interest Payments, Continue Discussions With Debtholders

Prev 1 2 3 4 5 6 7 8 9 10 Next

CLICK TO EXPAND

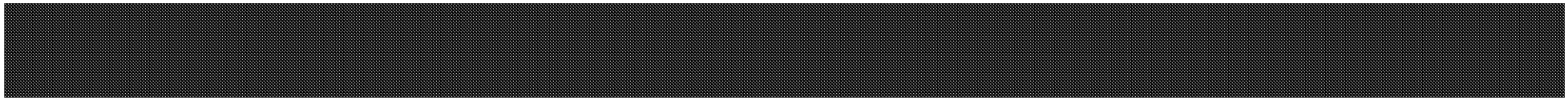

Exhibit 4

Exhibit 5

Exhibit 6

Exhibit 7

Effects of Surface Runoff From a Landfill Containing Coal Ash on Water Chemistry in Adjacent Surface Water in Perry County, Alabama

Jeff Cole* and E. G. Dobbins, Ph.D.
Dept. of Biological and Environmental Science, Samford University, Birmingham, AL 35229-2234

Introduction

- Coal ash is a form of coal combustion residue that is one of the byproducts of coal-powered power plants (Ruhl et al, 2012).
- Coal ash disposal areas contain high concentrations of heavy metals such as Ca, As, Tl, Mg, Sr, Li, B, V, Cr, Se, Mo, F, Cl, Br, SO_4^{2-} (Ruhl et al, 2012).
- In 2008 the coal ash dike at TVA Kingston Fossil Plant's solid waste containment area ruptured and released 2.3 million m^3 of coal ash into the Emory River (H. Rep., 2009).
- As part of the clean up, Perry County LLC landfill received this coal ash.
- Rain water drains from the Perry County landfill into surface water that joins Chilatchee Creek.
- Conductivity measurements of water is a helpful way of determining elevated ion concentrations such as the contaminants associated with coal ash discharge (Down & Lehr, 2005).
- Streams with conductivity of 150-500uS are suitable for fish and macroinvertebrates (EPA, 2012).
- We expected the surface water from the landfill to:
  1) significantly change water quality parameters such as pH, Conductivity, Total dissolved solids (TDS)
  2) contain significant indicators of coal ash, including arsenic, boron, chromium, and sulfide.

Methods

- All samples were collected weekly between June and July 2013 within 150m east, 500m west, and 250m downstream of Perry LLC landfill discharge (Fig 1).
- Water samples were collected in duplicate at 8 different adjacent locations within 500 m of the discharge, from surface water near the plant gate, and at an independent control stream 150m east of the entrance to the landfill.
- pH was measured at each site using a pH meter (Extech pH 110) that was calibrated to 7.00. Specific conductivity and Total Dissolved Solids (TDS) were measured using two meters: Extech EC400 and HACH HQ14d conductivity meter calibrated at 84uS, 1413uS, and 12,880uS.
- Water samples were collected from each site and tested in the laboratory for Boron, Chromium, and Sulfide (HACH DR/890 Colorimeter). Arsenic concentrations were tested using a HACH Arsenic Low Range Test Kit.
- We compared mean water quality between sample sites with Analysis of Variance (ANOVA) and discriminated between significantly different means with Tukey's Honestly Significant Difference test (HSD). Differences in water quality parameters were considered significant at α = 0.01.

Figure 1: Site Map of Perry County LLC (Google Earth). Gate and Control sites noted as stars/controls. Mr. Cypress's property with a tributary to Chilatchee Creek 14.2 km west from Gate. Red arrow indicates landfill discharge site.

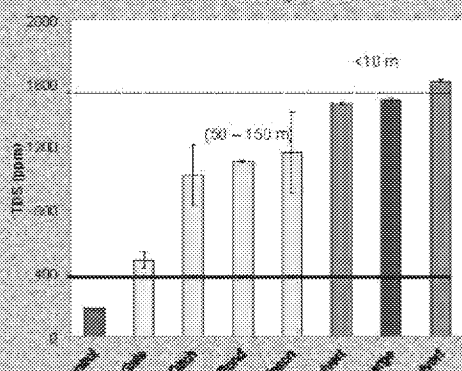

Figure 2: Mean TDS at each site. Discharge in red. Colors indicate mean values that are not significantly different at α = 0.01. Error bars indicate standard deviation. Dashed line indicates guideline for fresh water. Solid line is aesthetic benchmark (USEPA, 2003).

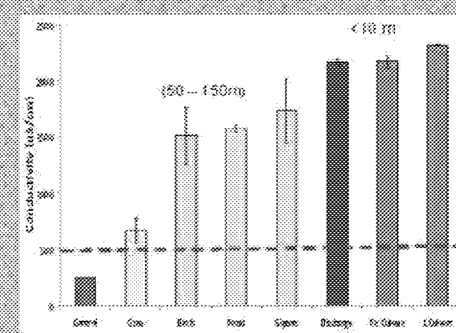

Figure 3: Mean Conductivity at each site. Discharge in red. Colors indicate mean values that are not significantly different at α = 0.01. Error bars indicate standard deviation. Dashed line indicates EPA suggested levels for drinking water and aquatic life (USEPA, 2012).

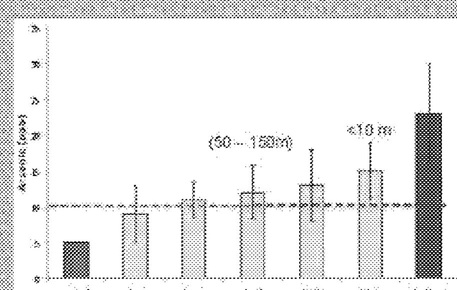

Figure 4: Mean Arsenic at each site. Colors indicate mean values that are not significantly different at α = 0.01. Error bars indicate standard deviation. Dashed line indicates acceptable levels for arsenic in ground water (ADEM, 2008).

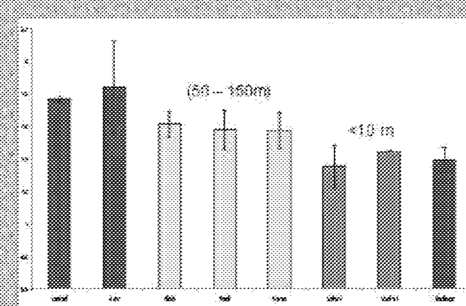

Figure 5: Mean pH at each site. Colors indicate mean values that are not significantly different at α = 0.01. Error bars indicate standard deviation.

Results

- There were consistent changes in water quality parameters associated with the landfill discharge.
- There were significantly greater TDS ($F = 79.080$, $p < 0.001$) and conductivity ($F = 39.358$, $p < 0.001$) near the landfill discharge compared to control. Sites within 10m of the discharge had mean TDS eight times greater than control (Figure 2) and mean conductivity nine times greater than control (Figure 3).
- There were no difference in mean levels of boron, chromium, and sulfide between the control and discharge sites.
- Arsenic concentrations were significantly greater in surface waters near landfill than at gate or control ($F = 4.605$, $p < 0.001$) (Figure 4).
- The pH of of surface water near the landfill was significantly more acidic than near gate or control ($F = 21.260$, $p < 0.001$) (Figure 5).
- 500m downstream from the landfill, conductivity decreased by 60%, but still contributed to a 40% increase in conductivity in Chilatchee Creek.

Discussion

- Coal ash in landfills affects adjacent surface water.
- Elevated conductivity and TDS create challenges in osmotic pressure regulation for aquatic organisms.
- Despite differences between discharge and control, the pH in the creek fell within the guidelines for a Fish and Wildlife classified stream $6.5 \leq pH \leq 8.5$ (ADEM, 2012).
- Despite our predictions, there was no evidence of elevated boron, chromium, or sulfide.
- Arsenic levels were elevated above ADEM guidelines near the landfill.
- Elevated arsenic creates a persistent risk to the ecosystem, as it bioaccumulates and biomagnifies.

Acknowledgements

Funding provided by the Samford's Project Summer School Program

Literature Cited

Alabama Department of Environmental Management (ADEM) (2008). Alabama risk-based corrective action Guidance manual – ground water, Rev. 2.
Environmental Protection Agency (EPA) (2003) National Secondary Drinking Water Regulations. Water: Guidelines for nuisance chemicals. http://water.epa.gov/drink/contaminants/secondarystandards.cfm
Environmental Protection Agency (EPA) (2012) Water: Monitoring and Assessment. 5.9 Conductivity. http://water.epa.gov/type/rsl/monitoring/vms59.cfm
Down, J. R. (2005) Conductivity Analyzers and Their Application. In R. D. Down & J. H. Lehr (Eds.), Environmental Instrumentation and Analysis. Hoboken, NJ: Wiley & Sons. (p. 491-510).
House of Representatives (H. Rep) (2009). The one year anniversary of the Tennessee Valley Authority's Kingston ash spill: evaluating current cleanup progress and assessing future environmental goals (111-87). Washington, DC: U.S. Government Printing Authority.
Ruhl, L., Vengosh, A., Dwyer, G. S., Hsu-Kim, H., Schwartz, G., Romanski, A., & Smith, S. (2012). The Impact of Coal Combustion Residue Effluent on Water Resources: A North Carolina Example. Environmental Science & Technology, 46(21), 12226–12233.

Exhibit 8

Water Collected from surface waters adjacent to Arrowhead Landfill in Perry County, AL, March 2015

Ex. 6 Personal Privacy (PP)

All Values were from water analysis by Atomic Emission Spectrometry on a Shimadzu Inductively Coupled Plasma Emission Spectrometer (ICPE-9000) . Atomic emission spectrometers are analytical instruments that feature high ppb level detection ability over a broad concentration range (often 5 to 6 orders of magnitude.)

Priority pollutants
Silver (Ag), Arsenic (As), Chromium (Cr), Mercury (Hg), and Lead (Pb) were below the detection limits of the ICPE-9000 in semi-quantitative mode, however the detection limit was above the EPA limits suggested so these results are ambiguous.

Nickel (Ni) and Zinc(Zn) were below the detection limits of the ICPE-9000 in semi-quantitative mode, which is also well below EPA standard, so there Ni and Zn are not metals of concern for these surface waters.

In all cases, Control represents water collected from an ephemeral stream adjacent to the approximately ¼ North of the Land fill, and Pool represents a small pond or Pool on the South West face of the landfill that collects water. Unless otherwise indicated, all other values fell between these two.

1. Cadmium (Priority pollutant)
EPA freshwater acute = 2.0 µg/L; freshwater Chronic = 0.25 µg/L
ANOVA $F_{(5, 19)}$ = 40.310 P< 0.001
Control (0.6 µg/L)
Pool (1.9 µg/L)

2. Iron (Fe) – Note mean Iron level in control are greater than in pool.
ANOVA $F_{(5, 19)}$ = 22.807 P< 0.001
Control (1701.7 µg/L)
Pool (79 µg/L)

3. Magnesium
EPA – (water plus organism) (1.9 mg/L)
ANOVA $F_{(5, 19)}$ = 32.877 P< 0.001
Control (160 µg/L or 0.16 mg/L)
Pool (1,900 µg/L or 1.9 mg/L) – Water alone
**The pool value is an order of magnitude greater and control and at EPA recommendations for water plus organism.

4. Manganese (Non-priority pollutant)
ANOVA $F_{(5, 19)}$ = 3.957; P= 0.013
Control (5.7 µg/L),
Pool (49.2 µg/L)

5. Rhenium (Re)

ANOVA $F_{(5, 19)} = 30.721$; $P < 0.001$
Control (0.3 µg/L)
Pool (89.0 µg/L)

6. Rubidium (Rb)

NO significant difference with small sample size.
Control (3,633.3 µg/L)
Pool (6,933.3 µg/L)

7. Selenium (Priority pollutant)

ADEM – freshwater acute = 20 µg/L; freshwater Chronic = 5.0 µg/L
EPA freshwater Chronic = 5.0 µg/L

ANOVA $F_{(5, 19)} = 9.841$; $P < 0.001$
Control (2.6 µg/L)
POOL (10.4 µg/L)

8. Sodium (Na)

NO significant difference with small sample size.
Control (357.5 µg/L)
Pool (7,504.2 µg/L)

9. Strontium (Sr)

Use Kruskal Wallace; $P < 0.01$ (Data not normally distributed and couldn't be transformed, so used Kruskal-Wallace test, a non-parametric statistical test.)
Control (7.3 µg/L)
Pool (2,608.3 µg/L)

Note the 3 orders of magnitude difference in these results.

10. Sulfur (S)

Can't Normalize by any transformation so used non-parametric statistical test.
Kruskal Wallace; $P < 0.01$
Control (483.3 µg/L)
Pool (79,083.3 µg/L)

Note the 2 orders of magnitude difference in these results.

Exhibit 9

ALABAMA UTILITY SERVICES, L.L.C.

January 11, 2010

Ms. Kimberly Minton
Water Division - ADEM
P.O. Box 301463
Montgomery, Alabama 36130-1463

Re: Leachate Treatment & Disposal
Uniontown Land Fill

Dear Ms. Minton:

This is to confirm that Alabama Utility Services, LLC (AUS) plans to accept leachate from the above land fill at our facilities below, subject to approval from your office:

West Jefferson County, Donnaldson WWTP, Permit Number AL 0045560
Receipt subject to limitations of non SID permitted wastes up to an average of 25,000 per day.

I understand that SID permit applications have been prepared by the land fill to facilitate ADEM approval (if necessary). I have attached the lab reports for the leachate for your review. Please contact me if there are any questions.

Sincerely yours,

C. W. Matthews, P.E.
Manager

cc: Ms. Daphne Smart, PE
Mr. William F. Hodges, PE
Mr. Michael Smith, Esq.

Attachment

P. O. Box 400 – Moody, Alabama 35004
205-640-3829 – Facsimile 205-640-3830

ANALYTICAL ENVIRONMENTAL SERVICES, INC

3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 0911F56

Date: _____ Page 1 of 2

COMPANY: EM Services

ADDRESS: 2021 Queensbury Dr Acworth, GA 30102

PHONE: 770\823-7174

FAX:

SAMPLED BY: TNardell

SIGNATURE: TNardell

#	SAMPLE ID	SAMPLED DATE	SAMPLED TIME **	Grab	Composite	Matrix (See codes)
1	Leachate	11\19\09	1020	X		WW
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						

ANALYSIS REQUESTED

#	Oil & Grease	BNA, Pest, PCB *	BOD	T. Phos	Res Chlorine (TRC)	Metals, Hg *	Volatiles *	Alkalinity	TOC, COD	TDS, TSS, NO3	CN-	Cl, F, SO4	TSS, pH	No. of Containers
PRESERVATION (See codes)	H2SO4	ICE	ICE	H2SO4	ICE	HNO3	HCl	ICE	H2SO4	ICE	NaOH, ZnAc	ICE	ICE	
1	2	A	1	1	1	1	2	1	1	1	1	1	1	
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

REMARKS

* See Permit Specific List

** Time is recorded in EST.

RELINQUISHED BY / DATE/TIME

1: TNardell 11/19/09 1535

2:

3:

RECEIVED BY / DATE/TIME

1: 11/19/09 3:30

2:

3:

PROJECT INFORMATION

PROJECT NAME: Perry County Associates Landfill

PROJECT #:

SITE ADDRESS:

SEND REPORT TO: W.P. Johnson

INVOICE TO: (IF DIFFERENT FROM ABOVE)

QUOTE #: PO#:

RECEIPT

Total # of Containers

Turnaround Time Request

- Standard 5 Business Days
- 2 Business Day Rush
- Next Business Day Rush
- Same Day Rush (auth req.)
- Other

STATE PROGRAM (if any): AL

E-mail: Y / N, Fax: Y / N

DATA PACKAGE: I II III IV

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD

OUT / / VIA:

IN CLIENT FedEx UPS MAIL COURIER GREYHOUND OTHER

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.
SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water

PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original, Yellow Copy - Client

Page 1 of 2

Analytical Environmental Services, Inc **Date:** 4-Dec-09

Client: EMServices, LLC
Project: Perry County Associates Landfill
Lab ID: 0911F56

Case Narrative

11/23/09 10:00 a.m. Per Jeff Johnson, via telephone, the samples were analyzed at a 3 day rush TAT.

11/12/09 7:39 p.m. Per the selection list provided by Tracy Wardell, via email, Nitrite analysis is not needed.

Sample Receiving Nonconformance:

A Trip Blank was provided but not listed on the Chain of Custody. Trip blank analyzed at no cost to the client.

pH Analysis by Method E150.1:

Sample 0911F56-001J for pH analysis by Method E150.1 was received and analyzed outside holding time requirement of "immediate or 15 minutes".

Total Residual Chlorine Analysis by Method 330.5:

Sample 0911F56-001I for Chlorine, Total Residual analysis by Method 330.5 was received and analyzed outside holding time requirement of "immediate or 15 minutes".

Sulfite Analysis by Method 377.1:

Sample 0911F56-001L for Sulfite analysis by Method 377.1 was received and analyzed outside holding time requirement of "immediate or 15 minutes".

Ion Scan Analysis by Method 300:

Due to sample matrix, Sample 0911F56-0001K required dilution during preparation and/or analysis resulting in elevated reporting limits.

Nitrate/Nitrite Analysis by Method 353.2:

Due to sample matrix, Sample 0911F56-001F required a dilution during analysis resulting in elevated reporting limits.

Analytical Environmental Services, Inc Date: 4-Dec-09

Client:	EMServices, LLC	**Client Sample ID:**	LEACHATE
Project:	Perry County Associates Landfill	**Collection Date:**	11/19/2009 10:20:00 AM
Lab ID:	0911F56-001	**Matrix:**	Waste Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Trace Elements by ICP/MS E200.8				(E200.2)				
Antimony	BRL	5.00		ug/L	121695	1	11/23/2009 16:24	DJ
Arsenic	63.2	5.00		ug/L	121695	1	11/23/2009 16:24	DJ
Barium	443	10.0		ug/L	121695	1	11/23/2009 16:24	DJ
Beryllium	BRL	1.00		ug/L	121695	1	11/23/2009 16:24	DJ
Cadmium	BRL	0.700		ug/L	121695	1	11/23/2009 16:24	DJ
Chromium	9.02	5.00		ug/L	121695	1	11/23/2009 16:24	DJ
Copper	BRL	5.00		ug/L	121695	1	11/23/2009 16:24	DJ
Lead	1.26	1.00		ug/L	121695	1	11/23/2009 16:24	DJ
Nickel	16.1	5.00		ug/L	121695	1	11/23/2009 16:24	DJ
Selenium	BRL	5.00		ug/L	121695	1	11/23/2009 16:24	DJ
Silver	BRL	1.00		ug/L	121695	1	11/23/2009 16:24	DJ
Thallium	BRL	1.00		ug/L	121695	1	11/23/2009 16:24	DJ
Zinc	49.2	10.0		ug/L	121695	1	11/23/2009 16:24	DJ
Total Phosphorus E365.1				(E365.1)				
Phosphorus, Total (As P)	0.633	0.050		mg/L	121692	1	11/24/2009 11:27	LV
Total Organic Nitrogen SM4500-N C								
Nitrogen, Organic	51.6	0.500		mg/L	R160626	1	11/25/2009 16:45	TL
Total Oil and Grease (HEM) E1664				(E1664)				
Oil and Grease	BRL	5.0		mg/L	121697	1	11/23/2009 15:45	JW
Total Metals by ICP E200.7				(E200.7)				
Magnesium	50.0	5.00		mg/L	121682	1	11/24/2009 12:15	JY
Total Mercury E245.1				(SW7470)				
Mercury	BRL	0.00020		mg/L	121743	1	11/23/2009 17:25	MW
Total Cyanide (SM4500 CN-C, E)				(SM4500-CN-E)				
Cyanide, Total	BRL	0.010		mg/L	121842	1	11/24/2009 16:30	CG
T. Organic Carbon(TOC)(E415.1/SM5310B)								
Organic Carbon, Total	485	10.0		mg/L	R160426	10	11/23/2009 15:31	GR
Sulfite (E377.1/SM4500 SO3 B)								
Sulfite	52.0	2.00	H	mg/L	R160290	1	11/20/2009 11:30	AS
Sulfide (E376.1/SM4500 S2 F)								
Sulfide	50.0	1.0		mg/L	R160550	1	11/24/2009 16:20	AS

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value

Analytical Environmental Services, Inc **Date:** 4-Dec-09

Client:	EMServices, LLC	**Client Sample ID:**	LEACHATE
Project:	Perry County Associates Landfill	**Collection Date:**	11/19/2009 10:20:00 AM
Lab ID:	0911F56-001	**Matrix:**	Waste Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
Residue,Suspended(TSS)(E160.2/SM2540D)				**(E160.2)**				
Residue, Suspended (TSS)	18	10		mg/L	121781	1	11/24/2009 09:28	ML
PRIORITY POLLUTANT-VOLATILES E624				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,1-Dichloroethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,1-Dichloroethene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,2-Dichloroethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,2-Dichloropropane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
2-Chloroethyl vinyl ether	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Acrolein	BRL	20		ug/L	121749	1	11/24/2009 00:02	GK
Acrylonitrile	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Benzene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Bromodichloromethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Bromoform	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Bromomethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Carbon tetrachloride	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Chlorobenzene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Chloroethane	BRL	10		ug/L	121749	1	11/24/2009 00:02	GK
Chloroform	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Chloromethane	BRL	10		ug/L	121749	1	11/24/2009 00:02	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Dibromochloromethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Ethylbenzene	7.9	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Methylene chloride	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Tetrachloroethene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Toluene	75	5.0		ug/L	121749	1	11/24/2009 00:02	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Trichloroethene	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Trichlorofluoromethane	BRL	5.0		ug/L	121749	1	11/24/2009 00:02	GK
Vinyl chloride	3.2	2.0		ug/L	121749	1	11/24/2009 00:02	GK
Surr: 4-Bromofluorobenzene	105	55.6-140		%REC	121749	1	11/24/2009 00:02	GK
Surr: Dibromofluoromethane	109	73.6-113		%REC	121749	1	11/24/2009 00:02	GK
Surr: Toluene-d8	103	75.5-119		%REC	121749	1	11/24/2009 00:02	GK
PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS E625				**(E625)**				

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value

Analytical Environmental Services, Inc **Date:** 4-Dec-09

Client:	EMServices, LLC	**Client Sample ID:**	LEACHATE
Project:	Perry County Associates Landfill	**Collection Date:**	11/19/2009 10:20:00 AM
Lab ID:	0911F56-001	**Matrix:**	Waste Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS E625				**(E625)**				
1,2,4-Trichlorobenzene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
1,2-Dichlorobenzene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
1,2-Diphenylhydrazine	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
1,3-Dichlorobenzene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
1,4-Dichlorobenzene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2,4,6-Trichlorophenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2,4-Dichlorophenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2,4-Dimethylphenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2,4-Dinitrophenol	BRL	25		ug/L	121770	1	11/24/2009 13:41	YH
2,4-Dinitrotoluene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2,6-Dinitrotoluene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2-Chloronaphthalene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2-Chlorophenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
2-Nitrophenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
3,3'-Dichlorobenzidine	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
4,6-Dinitro-2-methylphenol	BRL	20		ug/L	121770	1	11/24/2009 13:41	YH
4-Bromophenyl phenyl ether	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
4-Chloro-3-methylphenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
4-Chlorophenyl phenyl ether	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
4-Nitrophenol	BRL	25		ug/L	121770	1	11/24/2009 13:41	YH
Acenaphthene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Acenaphthylene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Anthracene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Benzidine	BRL	80		ug/L	121770	1	11/24/2009 13:41	YH
Benzo(a)pyrene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Benzo(b)fluoranthene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Benzo(g,h,i)perylene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Benzo(k)fluoranthene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Bis(2-chloroethoxy)methane	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Bis(2-chloroethyl)ether	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Bis(2-chloroisopropyl)ether	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Bis(2-ethylhexyl)phthalate	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Butyl benzyl phthalate	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Chrysene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Di-n-butyl phthalate	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Di-n-octyl phthalate	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Dibenz(a,h)anthracene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Diethyl phthalate	20	10		ug/L	121770	1	11/24/2009 13:41	YH
Dimethyl phthalate	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Fluoranthene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Fluorene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value

Analytical Environmental Services, Inc Date: 4-Dec-09

Client:	EMServices, LLC	**Client Sample ID:**	LEACHATE
Project:	Perry County Associates Landfill	**Collection Date:**	11/19/2009 10:20:00 AM
Lab ID:	0911F56-001	**Matrix:**	Waste Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
PRIORITY POLLUTANT-SEMIVOLATILE ORGANICS E625				**(E625)**				
Hexachlorobenzene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Hexachlorobutadiene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Hexachlorocyclopentadiene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Hexachloroethane	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Indeno(1,2,3-cd)pyrene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Isophorone	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
N-Nitrosodi-n-propylamine	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
N-Nitrosodimethylamine	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
N-Nitrosodiphenylamine	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Naphthalene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Nitrobenzene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Pentachlorophenol	BRL	25		ug/L	121770	1	11/24/2009 13:41	YH
Phenanthrene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Phenol	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Pyrene	BRL	10		ug/L	121770	1	11/24/2009 13:41	YH
Surr: 2,4,6-Tribromophenol	100	19-124		%REC	121770	1	11/24/2009 13:41	YH
Surr: 2-Fluorobiphenyl	75.3	26-115		%REC	121770	1	11/24/2009 13:41	YH
Surr: 2-Fluorophenol	44.8	10-121		%REC	121770	1	11/24/2009 13:41	YH
Surr: 4-Terphenyl-d14	54.3	18-137		%REC	121770	1	11/24/2009 13:41	YH
Surr: Nitrobenzene-d5	82.6	15-120		%REC	121770	1	11/24/2009 13:41	YH
Surr: Phenol-d5	28	18-113		%REC	121770	1	11/24/2009 13:41	YH
Nitrogen, total Kjeldahl (TKN) E351.2				**(E351.2)**				
Nitrogen, total Kjeldahl (TKN)	146	20.0		mg/L	121892	40	11/25/2009 16:16	TL
Nitrogen, Nitrate-Nitrite (as N) E353.2								
Nitrogen, Nitrate-Nitrite (as N)	BRL	0.500		mg/L	R160475	10	11/24/2009 11:31	TL
Nitrogen, Ammonia (as N) E350.1				**(E350.1)**				
Nitrogen, Ammonia (As N)	94.8	2.00		mg/L	121691	1	11/23/2009 11:42	LV
Inorganic Anions by IC E300.0								
Chloride	450	10.0		mg/L	R160518	10	11/23/2009 14:06	GR
Fluoride	BRL	2.00		mg/L	R160518	10	11/23/2009 14:06	GR
Sulfate	190	10.0		mg/L	R160518	10	11/23/2009 14:06	GR
Hydrogen Ion (pH)(E150.1/SM4500 H+ B)								
pH	7.37	0.01	H	pH Units	R160276	1	11/19/2009 19:25	CG
Chlorine,T. Residual(E330.5/SM4500ClG)								
Chlorine	BRL	20.0	H	mg/L	R160425	100	11/20/2009 12:35	MG

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value

Analytical Environmental Services, Inc Date: 4-Dec-09

Client:	EMServices, LLC	**Client Sample ID:**	LEACHATE
Project:	Perry County Associates Landfill	**Collection Date:**	11/19/2009 10:20:00 AM
Lab ID:	0911F56-001	**Matrix:**	Waste Water

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
CHLORINATED PESTICIDES/PCBs BY E608/E608.2				(E608)				
4,4'-DDD	BRL	0.20		ug/L	121722	1	11/24/2009 18:11	KD
4,4'-DDE	BRL	0.20		ug/L	121722	1	11/24/2009 18:11	KD
4,4'-DDT	BRL	0.20		ug/L	121722	1	11/24/2009 18:11	KD
Aldrin	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
alpha-BHC	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1016	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1221	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1232	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1242	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1248	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1254	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
Aroclor 1260	BRL	1.0		ug/L	121722	1	11/24/2009 18:11	KD
beta-BHC	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Chlordane	BRL	0.50		ug/L	121722	1	11/24/2009 18:11	KD
delta-BHC	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Dieldrin	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Endosulfan I	BRL	0.50		ug/L	121722	1	11/24/2009 18:11	KD
Endosulfan II	BRL	0.50		ug/L	121722	1	11/24/2009 18:11	KD
Endosulfan sulfate	BRL	0.50		ug/L	121722	1	11/24/2009 18:11	KD
Endrin	BRL	0.20		ug/L	121722	1	11/24/2009 18:11	KD
Endrin aldehyde	BRL	0.20		ug/L	121722	1	11/24/2009 22:37	KD
gamma-BHC	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Heptachlor	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Heptachlor epoxide	BRL	0.10		ug/L	121722	1	11/24/2009 18:11	KD
Methoxychlor	BRL	0.30		ug/L	121722	1	11/24/2009 18:11	KD
Toxaphene	BRL	2.0		ug/L	121722	1	11/24/2009 18:11	KD
Surr: Decachlorobiphenyl	29	10-133		%REC	121722	1	11/24/2009 18:11	KD
Surr: Tetrachloro-m-xylene	44.8	10-144		%REC	121722	1	11/24/2009 18:11	KD
Chemical Oxygen Demand (COD) E410.4								
Chemical Oxygen Demand	1480	10		mg/L	R160434	1	11/24/2009 08:30	ML
BOD (5 day) (E405.1/SM5210B)				(E405.1)				
Biochemical Oxygen Demand	906	50.0		mg/L	121672	10	11/20/2009 13:00	MG

Qualifiers:
- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value

Analytical Environmental Services, Inc **Date:** 4-Dec-09

Client:	EMServices, LLC	**Client Sample ID:**	TRIP BLANK
Project:	Perry County Associates Landfill	**Collection Date:**	11/19/2009
Lab ID:	0911F56-002	**Matrix:**	Aqueous

Analyses	Result	Reporting Limit	Qual	Units	BatchID	Dilution Factor	Date Analyzed	Analyst
PRIORITY POLLUTANT-VOLATILES E624				**(SW5030B)**				
1,1,1-Trichloroethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,1,2,2-Tetrachloroethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,1,2-Trichloroethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,1-Dichloroethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,1-Dichloroethene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,2-Dichlorobenzene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,2-Dichloroethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,2-Dichloropropane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,3-Dichlorobenzene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
1,4-Dichlorobenzene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
2-Chloroethyl vinyl ether	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Acrolein	BRL	20		ug/L	121749	1	11/23/2009 23:34	GK
Acrylonitrile	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Benzene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Bromodichloromethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Bromoform	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Bromomethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Carbon tetrachloride	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Chlorobenzene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Chloroethane	BRL	10		ug/L	121749	1	11/23/2009 23:34	GK
Chloroform	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Chloromethane	BRL	10		ug/L	121749	1	11/23/2009 23:34	GK
cis-1,3-Dichloropropene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Dibromochloromethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Ethylbenzene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Methylene chloride	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Tetrachloroethene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Toluene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
trans-1,2-Dichloroethene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
trans-1,3-Dichloropropene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Trichloroethene	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Trichlorofluoromethane	BRL	5.0		ug/L	121749	1	11/23/2009 23:34	GK
Vinyl chloride	BRL	2.0		ug/L	121749	1	11/23/2009 23:34	GK
Surr: 4-Bromofluorobenzene	96.8	55.6-140		%REC	121749	1	11/23/2009 23:34	GK
Surr: Dibromofluoromethane	107	73.6-113		%REC	121749	1	11/23/2009 23:34	GK
Surr: Toluene-d8	102	75.5-119		%REC	121749	1	11/23/2009 23:34	GK

Qualifiers:

- * Value exceeds maximum contaminant level
- BRL Below reporting limit
- H Holding times for preparation or analysis exceeded
- N Analyte not NELAC certified
- B Analyte detected in the associated method blank
- > Greater than Result value
- E Estimated (value above quantitation range)
- S Spike Recovery outside limits due to matrix
- Narr See case narrative
- NC Not confirmed
- < Less than Result value

Analytical Environmental Services, Inc.

Sample/Cooler Receipt Checklist

Client EM Service Work Order Number 0911F50

Checklist completed by mfore 11/19/9
Signature Date

Carrier name: FedEx ___ UPS ___ Courier ___ Client ✓ US Mail ___ Other ___

Shipping container/cooler in good condition? Yes ✓ No ___ Not Present ___

Custody seals intact on shipping container/cooler? Yes ___ No ___ Not Present ✓

Custody seals intact on sample bottles? Yes ___ No ___ Not Present ✓

Container/Temp Blank temperature in compliance? (4°C±2)* Yes ✓ No ___

Cooler #1 3.6° Cooler #2 3.9° Cooler #3 ___ Cooler #4 ___ Cooler#5 ___ Cooler #6 ___

Chain of custody present? Yes ✓ No ___

Chain of custody signed when relinquished and received? Yes ✓ No ___

Chain of custody agrees with sample labels? Yes ✓ No ✓

Samples in proper container/bottle? Yes ✓ No ___

Sample containers intact? Yes ✓ No ___

Sufficient sample volume for indicated test? Yes ✓ No ___

All samples received within holding time? Yes ___ No ✓

Was TAT marked on the COC? Yes ✓ No ___

Proceed with Standard TAT as per project history? Yes ___ No ___ Not Applicable ✓

Water - VOA vials have zero headspace? No VOA vials submitted ___ Yes ✓ No ___

Water - pH acceptable upon receipt? Yes ✓ No ___ Not Applicable ___

Adjusted? ___ Checked by ___

Sample Condition: Good ✓ Other(Explain) ___

(For diffusive samples or AIHA lead) Is a known blank included? Yes ___ No ✓

See Case Narrative for resolution of the Non-Conformance.

* Samples do not have to comply with the given range for certain parameters.

\\L\Quality Assurance\Checklists Procedures Sign-Off Templates\Checklists\Sample Receipt Checklists\Sample_Cooler_Receipt_Checklist

Analytical Environmental Services, Inc

Date: 27-Nov-09

Client: EMServices, LLC
Project: Perry County Associates Landfill
Lab Order: 0911F56

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0911F56-001A	LEACHATE	11/19/2009 10:20:00AM	Waste Water	PP-VOLATILES		11/23/2009	11/24/2009
0911F56-001B	LEACHATE	11/19/2009 10:20:00AM	Waste Water	TOTAL MERCURY		11/23/2009	11/23/2009
0911F56-001B	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Trace Elements by ICP/MS		11/21/2009	11/23/2009
0911F56-001B	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Total Metals by ICP		11/20/2009	11/24/2009
0911F56-001C	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Phosphorus , Total		11/23/2009	11/24/2009
0911F56-001D	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, Ammonia (as N)		11/20/2009	11/23/2009
0911F56-001D	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, Ammonia (as N)		11/20/2009	11/21/2009
0911F56-001D	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, total Kjeldahl (TKN)		11/23/2009	11/24/2009
0911F56-001D	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, total Kjeldahl (TKN)		11/25/2009	11/25/2009
0911F56-001D	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Total Organic Nitrogen			11/25/2009
0911F56-001D	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, total Kjeldahl (TKN)		11/25/2009	11/25/2009
0911F56-001E	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Total Organic Carbon (TOC)			11/23/2009
0911F56-001E	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Total Organic Carbon (TOC)			11/23/2009
0911F56-001E	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Chemical Oxygen Demand (COD)			11/24/2009
0911F56-001F	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, Nitrate-Nitrite (as N)			11/24/2009
0911F56-001F	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, Nitrate-Nitrite (as N)			11/24/2009
0911F56-001G	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Sulfide			11/24/2009
0911F56-001H	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Total Cyanide		11/24/2009	11/24/2009
0911F56-001I	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Nitrogen, Nitrite (as N)			11/20/2009
0911F56-001I	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Chlorine, Total Residual			11/20/2009
0911F56-001J	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Laboratory Hydrogen Ion (pH)			11/19/2009
0911F56-001J	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Residue, Suspended (TSS)		11/23/2009	11/24/2009
0911F56-001K	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Inorganic Anions by IC			11/23/2009
0911F56-001L	LEACHATE	11/19/2009 10:20:00AM	Waste Water	SULFITE			11/20/2009
0911F56-001M	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Biochemical Oxygen Demand (BOD)		11/20/2009	11/20/2009
0911F56-001N	LEACHATE	11/19/2009 10:20:00AM	Waste Water	Oil and Grease		11/23/2009	11/23/2009
0911F56-001O	LEACHATE	11/19/2009 10:20:00AM	Waste Water	PP-CL-Pesticides		11/23/2009	11/24/2009
0911F56-001O	LEACHATE	11/19/2009 10:20:00AM	Waste Water	PP-CL-Pesticides		11/23/2009	11/24/2009
0911F56-001P	LEACHATE	11/19/2009 10:20:00AM	Waste Water	PP-SEMIVOLATILE ORGANICS		11/23/2009	11/24/2009

Analytical Environmental Services, Inc

Date: 27-Nov-09

Client: EMServices, LLC
Project: Perry County Associates Landfill
Lab Order: 0911F56

Dates Report

Lab Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	TCLP Date	Prep Date	Analysis Date
0911F56-002A	TRIP BLANK	11/19/2009 12:00:00AM	Aqueous	PP-VOLATILES		11/23/2009	11/23/2009

EMSL Analytical, Inc.
107 Haddon Ave., Westmont, NJ 08108
Phone: (856) 858-4800 Fax: (856) 858-4960 Email: westmontaablab@EMSL.com

Attn: April Crenshaw
AES-Analytical Environmental Services
3785 Presidential Pkwy.
Atlanta, GA 30340
Fax: (770) 457-8188 Phone: (770) 457-8177
Project: 0911F56-0015

Customer ID: ANAE50
Customer PO:
Received: 11/21/09 3:00 PM
EMSL Order: 040928315
EMSL Proj:
Analysis Date: 11/24/2009

Test Report: Determination of Asbestos Structures over 10um in Length in Waste Water Performed by the EPA 100.2 Method

Sample ID	Sample Prep Date	# Fibers Asbestos	# Fibers Non-Asbestos	Type(s) Of Asbestos	Analytical Sensitivity (MFL)	Confidence Limits	Concentration Of Asbestos Fibers (MFL)	Comments
LEACHATE	11/22/09	0	0		4.90	0.00-18.00	<4.90	
040928315-0001								

Analyst(s)
Frank Craig (1)

Stephen Siegel, CIH, Laboratory Manager
or other approved signatory

THIS IS THE LAST PAGE OF THE REPORT.

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

November 24, 2009

Ms. April Crenshaw
AES

RE: Project: 0911F56-001
Pace Project No.: 9258137

Dear Ms. Crenshaw:
Enclosed are the analytical results for sample(s) received by the laboratory on November 23, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Brandon Helton

brandon.helton@pacelabs.com
Project Manager

Enclosures

cc: Mr. James Forrest, AES

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: 0911F66-001
Pace Project No.: 9268137

Eden Certification IDs
370 W Meadow Road Eden, NC 27288
North Carolina Drinking Water Certification #: 37738
North Carolina Wastewater Certification #: 633
Virginia Drinking Water Certification #: 00424

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: 0911F56-001
Pace Project No.: 9258137

Sample: LEACHATE Lab ID: 9258137001 Collected: 11/19/09 10:20 Received: 11/23/09 13:29 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2120E Color ADMI	Analytical Method: SM 2120E Color ADMI							
Color, ADMI	436	units	25.0	1		11/23/09 16:19		1g,H3
Adjusted Color, ADMI	524	units	25.0	1		11/23/09 16:19		
pH	7.0	units	1.0	1		11/23/09 16:19		
Adjusted pH, ADMI	7.6	units	1.0	1		11/23/09 16:19		

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: 0911F56-001
Pace Project No.: 9258137

QC Batch: EDEN/4288 Analysis Method: SM 2120E Color ADMI
QC Batch Method: SM 2120E Color ADMI Analysis Description: 2120E Color ADMI
Associated Lab Samples: 9258137001

METHOD BLANK: 370729 Matrix: Water
Associated Lab Samples: 9258137001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Color, ADMI	units	ND	25.0	11/23/09 16:45	

LABORATORY CONTROL SAMPLE: 370731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Color, ADMI	units	125	135	108	90-110	

SAMPLE DUPLICATE: 370730

Parameter	Units	9258137001 Result	Dup Result	RPD	Qualifiers
Adjusted Color, ADMI	units	524	523	0	
Adjusted pH, ADMI	units	7.6	7.6	1	
Color, ADMI	units	436	440	1	
pH	units	7.0	7.1	1	

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: 0911F56-001
Pace Project No.: 9259137

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

U - Indicates the compound was analyzed for, but not detected.

ANALYTE QUALIFIERS

1g	Analyzed out of hold per client.
H3	Sample was received outside EPA method holding time.

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0911F56-001
Pace Project No.: 9268137

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
9268137001	LEACHATE	SM 2120E Color ADMI	EDEN/4288		

Pace Analytical™

www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

April Crenshaw
Analytical Environmental Services
3785 Presidential Parkway
Atlanta GA 30340

REPORT OF LABORATORY ANALYSIS FOR TCDD

Report Information:

Pace Project #: 10117570
Sample Receipt Date: 11/21/2009
Client Project #: 0911F56-001
Client Sub PO #: 9626
State Cert #: 40770

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 2,3,7,8-TCDD Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Nate Habte, your Pace Project Manager.

This report has been reviewed by:

December 02, 2009

Nate Habte, Project Manager
(612) 607-6407
(612) 607-6444 (fax)
natnael.habte@pacelabs.com

ACCREDITED IN ACCORDANCE WITH nelac

Report of Laboratory Analysis

The results relate only to the samples included in this report.

Report Prepared Date:
December 2, 2009

Pace Analytical Services, Inc.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

DISCUSSION

This report presents the results from the analysis performed on one sample submitted by a representative of Analytical Environmental Services, Inc. The sample was analyzed for the presence or absence of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) using a modified version of USEPA Method 1613B. The reporting limits were set to correspond to the lowest calibration point and a nominal 1-Liter sample amount.

The isotopically-labeled TCDD internal standard in the sample extract was recovered at 70%. All of the labeled standard recoveries obtained for this project were within the target ranges specified in Method 1613B. Also, since the quantification of the native TCDD was based on isotope dilution, the data were automatically corrected for recovery and accurate values were obtained.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. **The results show that 2,3,7,8-TCDD was not detected,** indicating that the sample processing steps were free of background levels of this congener.

Laboratory spike samples were also prepared using clean water that had been fortified with native standard material. The results show that the spiked native TCDD was recovered at 93-96%, with a relative percent difference of 3.2%. These results indicate high degrees of accuracy and precision for these determinations. Matrix spikes were not prepared with the sample batch.

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
Alabama	40770	Montana	92
Alaska	MN00064	Nebraska	
Arizona	AZ0014	Nevada	MN00064_2000
Arkansas	88-0680	New Jersey (NE	MN002
California	01155CA	New Mexico	MN00064
Colorado	MN00064	New York (NEL	11647
Connecticut	PH-0256	North Carolina	27700
EPA Region 5	WD-15J	North Dakota	R-036
EPA Region 8	8TMS-Q	Ohio	4150
Florida (NELAP	E87605	Ohio VAP	CL101
Georgia (DNR)	959	Oklahoma	D9922
Guam	08-004r	Oregon (ELAP)	MN200001-005
Hawaii	SLD	Oregon (OREL	MN200001-005
Idaho	MN00064	Pennsylvania	68-00563
Illinois	200012	Saipan	MP0003
Indiana		South Carolina	74003001
Indiana	C-MN-01	Tennesee	2818
Iowa	368	Tennessee	02818
Kansas	E-10167	Texas	T104704192-08
Kentucky	90062	Utah (NELAP)	PAM
Louisiana	LA0900016	Virginia	00251
Maine	2007029	Washington	C755
Maryland	322	West Virginia	9952C
Michigan	9909	Wisconsin	999407970
Minnesota	027-053-137	Wyoming	8TMS-Q
Mississippi	MN00064		

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

ANALYTICAL ENVIRONMENTAL SERVICES, INC
3785 Presidential Parkway, Atlanta GA 30340-3704
AES TEL.: (770) 457-8177 / TOLL-FREE (800) 972-4889 / FAX: (770) 457-8188

CHAIN OF CUSTODY

Work Order: 10117570

Date: ______ Page ____ of ____

COMPANY: | ADDRESS:
PHONE: | FAX:
SAMPLED BY: | SIGNATURE:

Visit our website www.aesatlanta.com to check on the status of your results, place bottle orders, etc.

#	SAMPLE ID	SAMPLED DATE	SAMPLED EST TIME	Grab	Composite	Matrix (See codes)	2,3,7,8-TCDD (Preservation: I)	REMARKS	No # of Containers
1	LEACHATE	11/9/09	10:20am	X		WW	X	001	
2									
3									
4									
5									
6									
7								1147	
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY	DATE/TIME	RECEIVED BY	DATE/TIME
1: [signature]	11/20/9 15:42	1: [signature] Pace	11/21/09 1025 T= 0.8°C
2:		2:	
3:		3:	

SPECIAL INSTRUCTIONS/COMMENTS:

SHIPMENT METHOD
OUT / / VIA:
IN / / VIA:
CLIENT (FedEx) UPS MAIL COURIER
GREYHOUND OTHER

PROJECT INFORMATION
PROJECT NAME: 0911F56-001
PROJECT #:
SITE ADDRESS:
SEND REPORT TO: April Crenshaw
INVOICE TO: (IF DIFFERENT FROM ABOVE) acrenshaw@aesatlanta.com
QUOTE #: PO#: 96026

RECEIPT
Total # of Containers
Turnaround Time Request
(✓) Standard 5 Business Days
○ 2 Business Day Rush
○ Next Business Day Rush
○ Same Day Rush (auth req.)
○ Other
STATE PROGRAM (if any): AL
E-mail? (Y)/N; Fax? Y/N
DATA PACKAGE: I (II) III IV

SAMPLES RECEIVED AFTER 3PM OR SATURDAY ARE CONSIDERED AS RECEIVED ON THE NEXT BUSINESS DAY; IF NO TAT IS MARKED ON COC AES WILL PROCEED AS STANDARD TAT.
SAMPLES ARE DISPOSED OF 30 DAYS AFTER COMPLETION OF REPORT UNLESS OTHER ARRANGEMENTS ARE MADE.

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify) WW = Waste Water
PRESERVATIVE CODES: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

Sample Condition Upon Receipt

Pace Analytical

Client Name: Analytical Environ Service Project # 10117570

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other _____

Tracking #: 7930 3854 2581

[redacted]

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☑ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other _____ Temp Blank: Yes ✓ No _____

Thermometer Used 90344942 or 179429 Type of Ice: (Wet) Blue None ☐ Samples on ice, cooling process has begun

Cooler Temperature 0.8c Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: 11/20/09

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☑No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☐Yes ☑No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: WT	☑Yes ☐No ☐N/A	12.
All containers needing acid/base preservation have been checked. Nonconformance are noted in 13.	☐Yes ☐No ☑N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	Samp #
Exceptions: VOA,Coliform, TOC, Oil and Grease, WI-DRO (water)	☐Yes ☑No	Initial when completed / Lot # of added preservative
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: NAH Date: 11/23/09

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina Certification Office.

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Reporting Flags

A = Reporting Limit based on signal to noise

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interference present

J = Estimated value

Nn = Value obtained from additional analysis

P = PCDE Interference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = See Discussion

Appendix B

Sample Analysis Summary

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Method 1613B Sample Analysis Results

Client - Analytical Environmental Services

Client's Sample ID	LEACHATE			
Lab Sample ID	10117570001			
Filename	F91202A_08			
Injected By	SMT			
Total Amount Extracted	982 mL	Matrix	Water	
% Moisture	NA	Dilution	NA	
Dry Weight Extracted	NA	Collected	11/19/2009	10:20
ICAL ID	F91106	Received	11/21/2009	10:25
CCal Filename(s)	F91201A_22	Extracted	11/30/2009	13:00
Method Blank ID	BLANK-22656	Analyzed	12/02/2009	07:14

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDD	ND	---	10	2,3,7,8-TCDD-13C	2.00	70
				Recovery Standard 1,2,3,4-TCDD-13C	2.00	NA
				Cleanup Standard 2,3,7,8-TCDD-37Cl4	0.20	68

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit.

ND = Not Detected
NA = Not Applicable
NC = Not Calculated

REPORT OF LABORATORY ANALYSIS

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 1613B Blank Analysis Results

Lab Sample ID	BLANK-22656	Matrix	Water
Filename	F91201A_19	Dilution	NA
Total Amount Extracted	934 mL	Extracted	11/30/2009 13:00
ICAL ID	F91106	Analyzed	12/01/2009 22:32
CCal Filename(s)	F91201A_07	Injected By	SMT

Native Isomers	Conc pg/L	EMPC pg/L	RL pg/L	Internal Standards	ng's Added	Percent Recovery
2,3,7,8-TCDD	ND	----	10	2,3,7,8-TCDD-13C	2.00	61
				Recovery Standard 1,2,3,4-TCDD-13C	2.00	NA
				Cleanup Standard 2,3,7,8-TCDD-37Cl4	0.20	61

Conc = Concentration (Totals include 2,3,7,8-substituted isomers).
EMPC = Estimated Maximum Possible Concentration
RL = Reporting Limit

REPORT OF LABORATORY ANALYSIS

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCS-22657		
Filename	F91201A_20	Matrix	Water
Total Amount Extracted	985 mL	Dilution	NA
ICAL ID	F91106	Extracted	11/30/2009 13:00
CCal Filename	F91201A_07	Analyzed	12/01/2009 23:20
Method Blank ID	BLANK-22656	Injected By	SMT

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDD	10	9.6	7.3	14.6	96
2,3,7,8-TCDD-37Cl4	10	7.5	3.7	15.8	75
2,3,7,8-TCDD-13C	100	81	25.0	141.0	81

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 1613B Laboratory Control Spike Results

Lab Sample ID	LCSD-22658		
Filename	F91201A_21	Matrix	Water
Total Amount Extracted	979 mL	Dilution	NA
ICAL ID	F91106	Extracted	11/30/2009 13:00
CCal Filename	F91201A_07	Analyzed	12/02/2009 00:07
Method Blank ID	BLANK-22656	Injected By	SMT

Compound	Cs	Cr	Lower Limit	Upper Limit	% Rec.
2,3,7,8-TCDD	10	9.3	7.3	14.6	93
2,3,7,8-TCDD-37Cl4	10	8.3	3.7	15.8	83
2,3,7,8-TCDD-13C	100	86	25.0	141.0	86

Cs = Concentration Spiked (ng/mL)
Cr = Concentration Recovered (ng/mL)
Rec. = Recovery (Expressed as Percent)
Control Limit Reference: Method 1613, Table 6, 10/94 Revision
R = Recovery outside of control limits
Nn = Value obtained from additional analysis
* = See Discussion

REPORT OF LABORATORY ANALYSIS

Pace Analytical™

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Method 1613B

Spike Recovery Relative Percent Difference (RPD) Results

Client	Analytical Environmental Services		
Spike 1 ID	LCS-22657	Spike 2 ID	LCSD-22658
Spike 1 Filename	F91201A_20	Spike 2 Filename	F91201A_21

Compound	Spike 1 %REC	Spike 2 %REC	%RPD
2,3,7,8-TCDD	96	93	3.2

%REC = Percent Recovered
RPD = The difference between the two values divided by the mean value

REPORT OF LABORATORY ANALYSIS